

Draft Agenda
11th International Workshop on
Multiple Scattering Lidar Experiments

November 1, 2000

8:00 AM Registration

9:00 AM Welcome and opening remarks

Session 1: Theoretical and numerical methods (Chair: A. Cohen)

9:15 AM The hierarchy of lidar equations starting from one for multiple scattering with polarization and change of wavelength down to the classical one - U. Oppel

9:45 AM Inhomogeneities of clouds and multiple scattering - P. Bruscaglioni

10:15 AM Double scattering lidar signal from remote clouds - V. Bryukhanova, I. V. Samokhvalov

10:45 AM Separation of the diffraction and geometric-optics components in asymptotic estimates of multiply scattered lidar returns – V. Veretennikov

11:15 AM to 11:30 AM - Break

Session 2: Non-spherical particle scattering (Chair: U. Oppel)

11:30 AM Multiple scattering by non-spherical particles – 1: A modified theory for the single scattering approach - A. Cohen, M. Kleimann, N. Shiloah

12:00 PM Single and multiple scattering of electro-magnetic radiation from spherical and cylindrical multi-layered particles - N. Shiloah, M. Kleiman, I. Gurvich, A. Cohen

12:30 PM Mueller matrix for oriented hexagonal ice crystals of cirrus clouds - A. Borovoi, I. Grishin, U. Oppel

1:00 PM to 2:00 PM – Break foods available during Small Group Discussions

Session 3: Lidar systems in space – 1 (Chair: E. Eloranta)

2:00 PM PICASSO-CENA: New cloud and aerosol observations for climate studies - D. Winker

2:30 PM Multiple scattering studies for the ELISE project - P. Voelger, Z. Liu, N. Sugimoto -

3:00 PM (*) Depolarization of returns of a space-based lidar from ice and water clouds - A. Y. S. Chang, G. Czerwinski, U. G. Oppel

3:30 PM to 3:45 PM - Break

3:45 PM Multiple scattering studies for PICASSO - D. Winker

4:15 PM Predictions of PICASSO depolarization returns from a full-Stokes Monte Carlo code - Yong Hu

4:45 PM Scattering-angle distributions of the multiple-scattering contribution to the return signals of spaceborne lidars - J. Reichardt , S. Reichardt, T. J. McGee

5:15 PM Adjourn for the day

November 2, 2000

Session 4: Lidar systems in space – 2 (Chair: D. Winker)

9:00 AM Computing realistic error bounds for multiple scattering errors in space-borne lidar altimetry measurements - E. Eloranta

9:30 AM Efficient ray-tracing in highly complex terrain under a stratified atmosphere, application to fine laser altimetry from space - C. A. Rohde, A. B. Davis

10:00 AM LITE returns from marine stratocumulus: An information content analysis using photon diffusion theory - A. B. Davis, D. M. Winker, M. Vaughan

10:30 AM to 10:45 AM - Break

Session 5: Doppler and Raman systems (Chair: A. Davis)

10:45 AM Influence of multiple scattering on a Doppler lidar signal - Ines Leike, C. Werner, J. Streicher

11:15 AM Multiple-scattering parameters in cirrus clouds with variable particle extinction profiles - J. Reichardt, T. J. McGee, M. Hess, A. Macke

Session 6: Inversion techniques (Chair: E. Zege)

11:45 PM Multiple-scattering based retrieval of cloud microphysical parameters - L. R. Bissonnette, G. Roy

12:15 PM Use of a polarization lidar for the retrieval of cloud optical parameters - Y. S. Balin, S. A. Samoilova

12:45 PM to 1:45 PM – Break foods available during Small Group Discussions

1:45 PM About one possibility to estimate cloud optical thickness and extinction profiles from satellite lidar return - P. Bruscaglioni, E. Zege, I. Polonsky

2:15 PM Retrieval of cloud microstructure parameters from cloud lidar returns - E. Zege, I. Katsev, I. Polonsky

2:45 PM to 3:00 PM - Break

Session 7: Experiments and Instrument Developments (Chair: L. Bissonnette)

3:00 PM Strong dependence of rain-induced lidar depolarization on illumination angle - G. Roy, L. R. Bissonnette

3:30 PM Computer simulation and experimental results for oceanic lidar return - D. Allocca, M. Contarino, L. Mullen, G. Ludbrook, E.P. Zege, I.L. Katsev, and A.S. Prikhach

4:00 PM Hybrid lidar radar for enhanced detection in scattering media - Linda Mullen

4:30 PM Wide-Angle Imaging Lidar (WAIL): Progress towards a deployable system with full diurnal cycle monitoring of clouds from ground - Steven P. Love, Anthony B. Davis, Cheng Ho

5:00 PM Discussion of next MUSCLE venue

5:15 PM Adjourn for the day

November 3, 2000

Session 8: MUSCLE 10 homework problem (Chair: Bruscaglioni)

9:00 AM (each participant in the homework exercise will present their results, followed by discussion and intercomparison of the results)

Homework using the backscatter lidar virtual instrument - C. Werner, I. Leike, J. Streicher

10:30 AM – 10:45 AM Break

11:30 AM Discussion of next homework assignment

12:00 PM Workshop Adjourns